

LCHEM4114 General Chemistry Lab

Course Descriptor

Course Code	LCHEM4114	Discipline	Bioscience and Chemistry
		US Credits	1
Credit Points	5	Date Approved	August 2022
FHEQ Level	4		
Core Attributes	Engaging with the Natural and Designed World (ND)		
Pre-Requisites			
Co-Requisites	LCHEM4119 General Chemistry		

Course Summary

This is the first-year lab course accompanying LCHEM4119 General Chemistry. It introduces basic chemistry laboratory techniques while exploring a range of experimental topics including qualitative and quantitative analysis and the characteristics of chemical and physical processes.

Course Aims

- Enable students to perform and interpret the results of laboratory experiments and demonstrations to better understand the fundamentals of chemistry and to enhance their abilities to collect, organise, and interpret experimental data.

Learning Outcomes

On successful completion of the course, students will be able to:

Knowledge and Understanding

K1a Acquire a deeper knowledge and understanding of the principles of chemistry through the practice of chemistry.

K2a Describe in writing and summarise verbally the procedures used, the results obtained, and the meaning of those results in chemical experiments.

Subject Specific Skills

S1a Apply the principles of chemistry to interpret the results of laboratory experiments.

S2a Manipulate small quantities of samples and accurately determine extensive and intensive physical properties such as mass, volume, density, and freezing and boiling points.

S3a Monitor and control the progress and analyse the products of chemical reactions

Transferable and Professional Skills

T1a Understand the significance of and be able to express the limits of certainty in measured values.

T2a Demonstrate an ability to problem solve a variety of tasks.

T3a Interpret experimental results and draw appropriate conclusions from them.

T4a Display a developing technical proficiency in written English and an ability to communicate clearly and accurately in structured and coherent pieces of writing.

Teaching and Learning

Teaching and learning strategies for this course will include:

A minimum of 25 contact hours, focused on laboratory-based practice, which may also include interactive group teaching, co-curriculars, individual meetings, in-class presentations, and exams.

Course information and supplementary materials are available on the University's Virtual Learning Environment (VLE).

Students will receive individualised developmental feedback on their work for this course.

Students are required to attend and participate in all the formal and timetabled sessions for this course. Students are also expected to manage their directed learning and independent study in support of the course.

Assessment

Formative

Students will be formatively assessed in class through class activities, and during office hours. Formative assessments are ones that do not count towards the final grade but will provide students with developmental feedback.

Summative

AE:	Assessment Activity	Weighting (%)	Duration	Length
1	Practical Skills assessment	100	25-30 hours	

Practical Skills assessment indicative content:

- Lab reports

Further information on the structure of summative assessment elements can be found in the Summative Assessment Briefs.

Feedback

Students will receive feedback in a variety of ways: written (including via email correspondence); oral (during the practical sessions and within office hours or on an *ad hoc* basis) and indirectly through class discussion.

Feedback on examinations (if relevant) is provided through generic internal examiners' reports and are made available to the student on the VLE.

For all other summative assessment methods, feedback is made available to the student either via email, the VLE or another appropriate method.

Indicative Reading

Note: Comprehensive and current reading lists for courses are produced annually in the Course Syllabus or other documentation provided to students; the indicative reading list provided below is used as part of the approval/modification process only.

Books

- Gilbert, Kirss, Foster & Bretz. Chemistry, an Atoms-Focused Approach, 3rd ed. W.W. Norton. ISBN: 978-0-393-42854.

Electronic Resources

- Poll Everywhere

Indicative Topics

- Purification through recrystallization
- Melting point determinations
- Interpreting atomic spectra
- Characteristic reactions and qualitative observations
- Determination of an empirical formula
- Inorganic synthesis
- Calorimetry
- Quantitative analysis and/or titration

Title: LCHEM4114 General Chemistry Lab Course Descriptor					
Approved by: Academic Board					
Location: Academic Handbook/Programme specifications and Handbooks/Mobility Courses					
Version Number	Date Approved	Date Published	Owner	Proposed Next Review Date	Modification (As per AQF4) & Category Number
3.0	August 2023	August 2023	Dr Helen Dawe	August 2027	Category 2: Change to summative assessment
2.0	October 2022	January 2023	Dr Thomas Gilbert	August 2027	Category 1: Corrections/clarifications to documents which do not change approved content. Category 3: Changes to Learning Outcomes
1.0	August 2022	August 2022	Dr Thomas Gilbert	August 2027	